

AMENDMENTS TO THE SPECIFICATION

Please replace the title with the following rewritten title:

CLOCK EXTRACTING DEVICE OF A DISC REPRODUCING APPARATUS HAVING

A GAIN COMMAND UNIT FOR DESIGNATING A LOOP GAIN

Please replace the paragraph beginning page 1, line 9, with the following rewritten paragraph:

A constant linear velocity (CLV) recording method is known as one of the methods for recording information signals on a disc. In order to read from the disc the information signals subjected to CLV recording, it is necessary to provide a clock extracting circuit for extracting a clock synchronous in phase with the information signals.

Please replace the paragraph beginning page 4, line 4, with the following rewritten paragraph:

As a read rate of the information signals is raised further, fluctuations of jitter become larger. Thus, a necessary loop gain of the clock extracting circuit becomes large in accordance with a magnitude of the error. For example, in the CLV recording method, the number of revolutions at an inner periphery of the optical disc 1 is different from that at an outer periphery of the optical disc 1 in order to secure a constant linear velocity. Therefore, when the optical pickup 2 is displaced through a large distance from the inner periphery to the outer periphery of the optical disc 1, a linear velocity at the outer periphery of the optical disc 1 becomes higher than that at the inner periphery of the optical disc 1, so that the read rate is also raised accordingly and thus, the necessary loop gain of the clock extracting circuit also changes greatly.

This phenomenon becomes more conspicuous as the read rate of the information signals rises further. Therefore, the necessary loop gain of the clock extracting circuit changes according to the read rate of the information signals. Accordingly, in order to ensure stable reproduction of the information signals from the inner periphery to the outer periphery of the optical disc 1, it is necessary to change the loop gain of the clock extracting circuit in accordance with the read rate of the information signals.

Please replace the paragraph beginning page 6, line 13, with the following rewritten paragraph:

Accordingly, an essential object of the present invention is to provide, with a view to eliminating the above mentioned drawbacks of the prior art, a clock extracting device of a disc reproducing apparatus, which is capable of securing a desired operating point automatically even in case of a large change of read rate of information signals of a disc so as to ensure stable reproduction of the information signals from an inner periphery to an outer periphery of the disc.

Please replace the paragraph beginning page 8, line 7, with the following rewritten paragraph:

Fig. 6 is a graph showing a relation between speed and speed signal in the speed sensor of Fig. 5;

Please replace the paragraph beginning page 8, line 9, with the following rewritten paragraph:

Fig. 7 is a graph showing a relation between speed signal of the speed sensor of Fig. 5 and loop gain of the clock extracting device of Fig. 1;

Please replace the paragraph beginning page 15, line 12, with the following rewritten paragraph:

Then, a changeover method of the loop gain of the clock extracting circuit is described with reference to Fig. 7 showing a relation between the speed signal and the loop gain of the clock extracting circuit in this embodiment. The speed sensor 6 outputs the speed signal as described above. Since this speed signal changes continuously in accordance with the speed but the loop gain of the clock extracting circuit is changed over by five sets of the charge pumps 22 and 23, the loop gain of the clock extracting circuit changes stepwise at the predetermined reference values of the speed signal. Thus, when the speed signal assumes values close to the predetermined reference values for changing over the loop gain of the clock extracting circuit, changeover of the loop gain of the clock extracting circuit is performed frequently upon minor change of the speed signal, thereby resulting in an unstable operation of the clock extracting circuit.